

AMERICAN SOCIETY FOR TESTING MATERIALS



~ BULLETIN ~

ENGINEERS' CLUB BUILDING.

1315 SPRUCE ST.

PHILADELPHIA, PA.

NUMBER 11

NOVEMBER 5, 1923

Current Society Publications

The Society will issue this year three regular publications. The current YEAR BOOK and the 1923 SUPPLEMENT to the BOOK OF A.S.T.M. STANDARDS were distributed to the members in September. The PROCEEDINGS (Vol. 23, Parts I and II) about 1625 pages, the largest ever published, will be ready for distribution in December. Part I contains the committee reports and new or revised tentative standards, Part II the technical papers and discussions. The PROCEEDINGS contain valuable data on many subjects.

Special Publications

Book of A.S.T.M. Tentative Standards.—The 1923 Book of Tentative Standards (859 pages) is the largest edition of this volume issued by the Society. This is the only book containing all of our 190 Tentative Standards and is therefore a most convenient volume for those who use A.S.T.M. specifications and methods. The book was described in Circular No. 175, September 17, and about 700 members have ordered copies. Many other members probably desire a copy of this volume and it would be appreciated if they would place their orders promptly through the Secretary-Treasurer. The special prices to members are \$4.50 in paper binding and \$5.50 in cloth binding. Orders can be filled immediately.

Reprints of Report of Committee D-2.—Following the custom of the last two years, reprints (96 pages) have been published of the complete report of Committee D-2 on Petroleum Products and Lubricants to fill nearly 1500 orders from members of the committee. This reprint includes the 1923 report of the committee and its sub-committees, and all new and revised tentative standards of the committee. Single copies, \$1.00.

Special Pamphlet on Textile Materials.—At the request of Committee D-13 on Textile Materials, 3000 copies have been printed of a pamphlet (80 pages) containing the standards and tentative standards of the Society relating to textile materials, with abstracts from committee reports and papers relating thereto for the past eight years. The pamphlet brings into one cover a considerable amount of information valuable to all who have to do with textiles, and the demand for the volume is expected to be correspondingly great. Through it the committee expects to bring its work effectively before the textile and related industries. Single copies, \$1.00; special prices for copies in quantity.

500 Members in Ten Months

Every record of the Society for new members was broken with the election of the five-hundredth new member a day or so ago, and with two months to the end of the year a record will be established that will be a worthy goal for us to aim at in future years. The present membership is 3400. The standing committees, through their fine efforts, have been the means of securing 173 of these 500 new members—about one in every three. Here is the committee "score" as we go to press:

Executive.....	2	B-3.....	1	D-1.....	14
A-1.....	15	C-1.....	17	D-2.....	7
A-2.....	2	C-3.....	5	D-4.....	3
A-3.....	1	C-4.....	10	D-5.....	4
A-4.....	4	C-5.....	2	D-7.....	2
A-5.....	5	C-7.....	2	D-8.....	1
A-6.....	1	C-8.....	4	D-9.....	5
A-7.....	3	C-9.....	17	D-11.....	5
B-1.....	1	C-10.....	5	D-13.....	22
B-2.....	9	C-11.....	2	D-14.....	2
					173

Three more standing committees have organized sub-committees on Increase of Membership as follows:

A-7 on Malleable Castings:	H. E. Diller, <i>Chairman</i> . Enrique Touceda.
B-2 on Non-Ferrous Metals and Alloys:	W. M. Corse, <i>Chairman</i> . E. L. Lasier. G. C. Stone.
C-10 on Hollow Building Tile:	J. T. Howington, <i>Chairman</i> . H. D. Foster. R. E. Schmidt.

Use the Enclosed Application Blank

There are two more months in which to better that mark of 500. A member who joins now still secures all the regular 1923 publications; or his membership may be dated from January 1, 1924. We can arrange the membership as he desires. The thing for each member to do is to get the application!

Municipal Memberships to be Solicited

The Membership Committee plans to secure the membership in the Society of a number of important municipalities. Our municipalities are large users of the materials and products for which we are writing specifications, and they are interested in the development of further knowledge of materials. The number of municipal memberships is not so large as it should be, and there are some important omissions. The aid of our committees is being enlisted.

American Engineering Standards Committee

Mr. J. A. Capp has been re-nominated for the Vice-Chairmanship of the American Engineering Standards Committee and in that capacity will serve as the Society's representative on the A.E.S.C. Executive Committee.

The following appointments of A.S.T.M. representatives on Sectional Committees of the A.E.S.C. have recently been made, which involve a number of A.S.T.M. specifications:

On the Sectional Committee on Standardization of Gears: T. D. Lynch and H. P. Tiemann.

On the Sectional Committee on Bolt, Nut and Rivet Proportions: E. J. Edwards and F. O. Kichline.

On the Sectional Committee on Materials for Special Track Work: E. F. Kenney (F. N. Speller, alternate).

The Society has also been invited to appoint two representatives on the Sectional Committee on the Standardization of Pipe Flanges and Fittings. The Society has been informally represented at recent meetings by H. V. Wille and V. T. Malcolm.

Numbering of Steels.—The A.S.T.M. and the Society of Automotive Engineers as joint sponsors for the development of "a numbering system for steels based on definite specifications" have extended invitations to twelve national bodies to appoint representatives to form a sectional committee on this subject. The A.S.T.M. representatives are L. H. Fry, T. D. Lynch and the Robert W. Hunt Co.

Cast-Iron Pipe Specifications.—There were recently submitted to the A.E.S.C. for its consideration, Specifications for Cast-Iron Pipe and Special Castings of the American Gas Association and the corresponding A.S.T.M. specifications (A 44-04) developed by Committee A-3. A special committee has recommended that approval of either of these specifications be deferred for the present and that the A.E.S.C. call a representative conference on bell and spigot and flanged cast-iron pipe and fittings to consider the preparation of specifications therefor, covering the dimensions and material. C. D. Young represented the Society on the committee.

Specifications for Steel Railway Bridges.—The American Railway Engineering Association and the American Society of Civil Engineers have submitted to the A.E.S.C. their respective Specifications for Steel Railway Bridges. These specifications include the A.S.T.M. Specifications for Structural Steel for Bridges (A 7-21), without modification in the case of the latter, and with a few modifications in the case of the former specifications. A special committee has been appointed to recommend to the A.E.S.C. the course of action to be taken, the Society's representative on the committee being Mr. A. W. Carpenter.

A.S.T.M. Standards Approved.—Since the last announcement in the April BULLETIN, the following A.S.T.M. Standards have been approved as Tentative American Standard: Methods of Routine Analysis of White Pigments, of Dry Red Lead, and of Yellow, Orange, Red and Brown Pigments; Specifications for Staybolt, Engine-Bolt and Extra-Refined Wrought-Iron Bars, for Refined Wrought-Iron Bars, and for Wrought-Iron Plates; and Methods of Test for Unit Weight of Aggregate for Concrete, for Voids in Fine Aggregate for Concrete, and for Organic Impurities in Sands for Concrete.

The following Standards have recently been submitted for approval: Specifications for Materials for Cement Grout Filler for Brick and Stone Block Pavements, and for Block for Granite Block Pavements; Methods of Test for Apparent Specific Gravity of Coarse Aggregates, for Apparent Specific Gravity of Sand, Stone and Slag Screenings, for Softening Point of Bituminous Materials, for Softening Point of Tar Products; and Methods of Sampling Stone, etc., for Use as Highway Materials. A number of others have been recommended for submission by the standing committees.

Dictionary of Specifications Being Prepared

The Department of Commerce has undertaken the preparation of a dictionary or handbook of specifications for supplies purchased by Federal, State and Municipal Governments and public institutions, with the object in view of bringing about the widespread use of specifications by these agencies as a basis of purchase for supplies. This work grew out of a meeting in May, 1923, of State purchasing agents from all over the country, at which the cooperation of the various States was assured. On June 11 a conference of various national organizations interested in purchase specifications from the point of view of both producer and consumer was held for the purpose of organizing an Advisory Committee to cooperate in this work. The Society is represented on the Advisory Committee by Vice-President W. H. Fulweiler.

The Department of Commerce is now preparing a classified list of some 5000 specifications of interest to public purchasing officials, which it is proposed to send to the interested organizations and individuals for comment so that it may be made as complete as possible before publication. A list has also been prepared of 20,000 items of interest to Federal, State and Municipal Governments and public institutions for which there should be specifications. Thus approximately 75 per cent of the supplies purchased are not covered by specifications.

In a recent announcement the Department states that individuals and groups for which the dictionary is being prepared have given assurance that they will welcome its appearance and cooperate actively in its preparation.

Standardization in the Marine Field

The American Marine Association has organized the American Marine Standards Committee for the object of promulgating, in cooperation with other interests concerned, any measure such as standards, rules or recommendations to bring about simplified practice in the field of activities covered by the Association, which comprises shipbuilding and allied industries, including design, construction and manufacture of hulls, machinery, equipment and fittings for ships and port facilities and supplies for their maintenance and operation. The Department of Commerce has placed at the disposal of the Association its Division of Simplified Practice and the departmental laboratories for the development of such standards and simplifications as the Committee may think wise to recommend to the industry.

The Marine Standards Committee has established certain technical committees, which for the present are engaged in the study of two matters of particular interest to A.S.T.M. committees, namely, shafting, including specifications for steel forgings, and condenser tube specifications. The Society has established cooperative relations between its Committees A-1 on Steel and B-2 on Non-Ferrous Metals and Alloys and the Marine Standards Committee, having invited that committee to appoint representatives upon the two A.S.T.M. committees. This invitation has been accepted and representatives will shortly be named.

The Marine Standards Committee has announced that existing standards will be adopted wherever practicable.

Mr. Philip G. Lang, Jr., Engineer of Bridges, Baltimore and Ohio Railroad, represented the Society at a conference on Simplification of Prepared Roofing, held in Washington on September 26, under the auspices of the Division of Simplified Practice. Mr. S. H. Ingberg, Physicist, U. S. Bureau of Standards, represented the Society at a similar conference on Simplification of Hollow Building Tile on October 19.

Joint Committee on Effect of Sulfur in Steel Reports Progress in Its Investigations

The Joint Committee on Investigation of Phosphorus and Sulfur in Steel has recently issued a Publicity Statement describing the status of the various projects that comprise its investigations to date. The following abstracts cover matters not previously abstracted in the BULLETIN.

Effect of Sulfur on Rivet Steel

The preliminary report of the Joint Committee on this subject appears in the PROCEEDINGS, Am. Soc. Testing Mats., Vol. 22, Part I, pp. 94-126 (1922). Since the publication of this report the following supplementary studies have been made:

1. The fatigue properties of these steels as determined by alternating tension and compression endurance tests and alternating torsion tests are being studied in the laboratory of the U. S. Naval Engineering Experiment Station.

2. The metallographic studies originally made on this material are being supplemented by further studies of the relative quantity of non-metallic inclusions in the various heats. Prints are being prepared showing such inclusions, and an endeavor is being made to represent each heat by a composite photomicrograph made from separate prints obtained from a number of specimens from each heat. Indications point to the importance of a careful study of these non-metallic inclusions.

3. Analyses for oxygen are being made at the U. S. Bureau of Standards on samples taken from specimens being studied micrographically.

The publication of the complete investigation with full descriptive matter will be in the form of a technologic paper of the U. S. Bureau of Standards.

Effect of Sulfur on Structural Steels

The structural steel for these tests was furnished by the Cambria Steel Co. in October, 1921, and May, 1922, as announced in BULLETIN No. 4 (January 30, 1922). Tests in duplicate at the laboratories of Watertown Arsenal and the U. S. Naval Engineering Experiment Station are nearing completion and a preliminary report is expected to be made at the 1924 annual meeting.

Effect of Sulfur on Forging Steels

The material in this group comprises forging steels and was manufactured by the Jones and Laughlin Steel Co., Pittsburgh, Pa., in April, 1923, under the immediate supervision of the committee. Seven heats of basic open-hearth steel were accepted by the committee as follows: Carbon, 0.45-0.57; manganese, 0.54-0.69; phosphorus, 0.011-0.056; and sulfur contents of 0.028, 0.032, 0.042, 0.045, 0.059, 0.073 and 0.101 per cent. The sulfur is "residual" sulfur.

The complete history of each heat of steel is known. The sulfur was introduced in the form of high-sulfur pig and scrap. Three ingots were poured from each heat for the use of the committee. From these ingots, after a 50-per-cent discard, were secured from each heat 1-in. rolled bars, 2-in. hammered bars and 8-in. pressed rounds. This material will be tested only in the annealed and quenched-and-drawn conditions. The heat treatment will be carried out by the U. S. Bureau of Standards on the sizes as rolled, hammered or pressed. Tests will be made at the laboratories at Watertown Arsenal and the Naval Engineering Experiment Station, substantially the same tests being made as in previous groups.

Effect of "Added" Sulfur

Previous announcement has been made (BULLETIN No. 4) of the manufacture of three heats of basic open-hearth steel, typifying plate, forging and rail steels, respectively, to which iron sulfide was added during pouring, securing for each heat

eight ingots with "added" sulfur content from 0.04 to 0.15 per cent, approximately. The testing of this material in the form of 1-in. rounds and 5 by 1½-in. flats has been completed, as reported by the Joint Committee at the last annual meeting, and a preliminary report of the investigation is being prepared for publication in the PROCEEDINGS. Reprints of this report will be forwarded when available to all members who have requested them. The Secretary-Treasurer will supply additional reprints on request.

The Joint Committee is at present at work on plans for securing material to study the effect of "residual" sulfur on wheel, tire and rail steels. As in the case of the preceding groups, this material will be manufactured under the supervision of the committee at a plant to be designated by the Association of American Steel Manufacturers.

Long Column Timber Tests

Tests on 12 by 12-in. by 24-ft. southern yellow pine and Douglas fir timbers are under way at the Forest Products Laboratory, Madison, Wis., in cooperation with the National Lumber Manufacturers' Association. The purpose of these tests is to study column formulas and laws, to obtain data on the effect of density and defects, such as knots and shakes in columns, and with these data as a basis to recommend safe working stresses for structural columns. The testing program as outlined covers a four-year period and will include tests on both green and air-dried material, ranging in quality from clear and dense to very defective and light-weight material. The timbers required for the program are divided into four shipments for delivery to the laboratory at approximately six months intervals. Tests have been completed on two shipments of green southern yellow pine and one of Douglas fir. About two years more will be required before all the tests are completed.

Further information regarding this investigation may be secured from the Forest Products Laboratory.

American Marine Congress

The Society has accepted the invitation of the American Marine Association to be officially represented at the American Marine Congress to be held during the week of November 5-10, 1923, in New York City. Mr. W. A. Dobson, Naval Architect, Wm. Cramp and Sons' Ship and Engine Building Co., Philadelphia, has been designated to represent the Society on the General Committee of the Congress, from which other committees necessary for the proper functioning of the Congress will be drawn. The purpose of the Congress is to discuss the marine shipping problem in its general aspects and to make recommendations for future development of the American marine.

Committee of Apparatus Makers and Users

Mr. F. G. Breyer, Chief, Research Division, New Jersey Zinc Co., Palmerton, Pa., has been appointed to represent the Society on a Committee of Apparatus Makers and Users that has been organized under the auspices of the National Research Council. The committee has for its purpose the bringing together of the principal users with the apparatus makers of the country so that American manufacture of testing apparatus will be fostered. Many committees of the Society are intimately concerned with the development and standardization of testing apparatus and will be in sympathy with this movement.

A.S.T.M. BULLETIN

Issued January, April, July and October
by the
AMERICAN SOCIETY FOR TESTING MATERIALS
Engineers' Club Building, 1315 Spruce St., Philadelphia, Pa.

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Assistant to the Secretary

R. E. HESS

Number 11

November 5, 1923

Another Year's Work Begun

The committees of the Society have taken up their work actively with the close of the summer vacation period. Twelve committees and a number of sub-committees have met this fall, and some ten or twelve others will meet before the end of the year. Several committees are reaching out into undeveloped portions of their fields, as illustrated in the development of specifications for oil country tubular goods by Committees A-1 and A-2, the study of metallic fluxes and deoxidizers by Committee B-2, and the work on specifications for cloth cement bags by Committee D-13. The last-named committee, which, up to this time, has concerned itself principally with cotton fabrics and yarns, now plans to include tests and specifications for woolen and knit goods for engineering purposes, which will open up a large field of usefulness for the Society. Through the recently organized Committee A-9 on Ferro-Alloys, the Society is prepared to undertake the standardization of specifications and methods of sampling and analysis of the ferro-alloys, which have become of increasing importance within recent years with the tremendous development of alloy steels. Many suggestions for new work, such as corrosion, heat and electrical-resistant alloys, slate and glue, are under consideration.

In line with recent discussions of our function in promoting knowledge of engineering materials and the decision of the Executive Committee to appoint a Committee on Research to study appropriate means of further developing this side of our work, it is very gratifying to note that the Society's committees are realizing their responsibilities in this direction. It was the Secretary's privilege during the past month to attend four meetings at which this matter was prominently discussed. Thus at the meeting of Committee B-2 it was considered that the committee would perform a valuable service in compiling for publication reliable data regarding the properties and uses of the light, high-strength aluminum and magnesium alloys. The discussion at the meeting on corrosion-resistant alloys reported on page 7 was entirely along this line. We believe our committees can in many ways further this important side of the Society's activities, and it is hoped that every opportunity to do so will be developed.

1924 Annual Meeting

The 1924 Annual Meeting of the Society will be held at Chalfonte-Haddon Hall, Atlantic City, at dates during the latter half of June that have not yet definitely been determined. Two dates of meeting are tentatively under consideration:

1. During the last week of June, *i. e.*, June 23-27;
2. Immediately following the meeting in Atlantic City of the American Railway Association, which is customarily held from Thursday to Wednesday about the middle of June.

The Executive Committee has reserved its decision until it has learned whether the American Railway Association will meet next year in Atlantic City. Announcement of the dates of the meeting and other matters relating thereto will be made in the January BULLETIN.

Plans for Committee Weeks

The Secretary-Treasurer is engaged in the preparation of plans for designating one or more "Committee Weeks" during the first four months of 1924, in which period of time practically every committee of the Society will have at least one meeting. Opinions that have been expressed by the various standing committees are in general favorable to such a plan, and the various committees will be consulted by the Secretary-Treasurer shortly with respect to the possibility of their meeting during designated weeks.

Adoption of New and Revised Standards

The letter ballot on adoption of standards, ordered at the recent Annual Meeting was canvassed August 28, 1923, the results being as follows:

	Aye	Nay	Not Voting
REVISION OF EXISTING STANDARDS			
Standard Specifications for Hard-Drawn Copper Wire (B 1-15).....	100	2	390
TENTATIVE STANDARDS TO BE ADOPTED AS STANDARD			
Tentative Specifications for:			
Pig Lead (B 29-22 T) as revised.....	101	0	391
Copper Pipe, Standard Sizes (B 42-22 T).....	90	4	398
Brass Pipe, Standard Sizes (B 43-22 T).....	93	3	396
Clay Sewer Brick (C 32-21 T).....	63	0	429
Perilla Oil, Raw or Refined (D 125-22 T).....	60	1	431
Block for Recut Granite Block Pavements (D 131-22 T) as revised.....	66	1	425
Block for Durax Granite Pavements (D 132-22 T).....	65	1	426
Broken Slag for Waterbound Base and Wearing Course (D 65-20 T).....	67	5	420
Shovel-Run or Crusher-Run Broken Slag for Waterbound Base (D 66-20 T).....	69	6	417
Cotton Rubber-Lined Fire Hose for Private Fire Department Use (D 14-22 T) as revised.....	61	3	428
Cotton Rubber-Lined Fire Hose for Public Fire Department Use (D 26-21 T) as revised.....	62	3	427
Rubber Gloves for Electrical Workers on Apparatus or Circuits Not Exceeding 3000 Volts to Ground (D 120-22 T).....	55	2	435
Rubber Pump Valves (D 151-22 T).....	50	2	440
Tentative Methods of:			
Chemical Analysis of Nickel (B 41-21 T).....	122	0	370
Chemical Analysis of Brass Ingots and Sand Castings (B 45-22 T).....	124	0	368
Chemical Analysis of Bronze Bearing Metal (B 46-22 T).....	130	1	361
Testing Gypsum and Gypsum Products (C 26-21 T) as revised.....	79	1	412
Routine Analysis of Yellow and Orange Pigments Containing Chromium Compounds, Blue Pigments and Chrome Green (D 126-22 T).....	88	4	400
Test for Fusibility of Coal Ash (D 22-22 T).....	114	2	376
Shatter Test for Coke (D 141-22 T) as revised.....	97	1	394

The total number of legal ballots cast..... 492

The twenty new standards and the one revised standard were printed in the 1923 Supplement to the A.S.T.M. Book of Standards, which publication was distributed about the middle of September to all members in good standing.

New Members, June 30 to September 29, 1923

One hundred and thirty-six new members were elected from June 30 to September 29, 1923, as follows:

Allen, A. J.	Lundteigen, John.
Allen and Co., A. M.	Machined Steel Casting Co.
American Thread Co., Inc., The.	Maginnis Cotton Mills, The E.
Andrews, F. M.	V. Benjamin Co., Inc.
Archer, E. T.	Malone, L. B.
Arnold, R. H.	Marie, S. U.
Baird and Tattlock (London), Ltd.	McConnel and Co., Ltd.
Beers, A. D.	McKenzie, J. G.
Bellis, A. P. S.	Miller, E. B.
Bethlehem Steel Co., Lebanon Plant.	Montgomery, C. T.
Bond, W. E.	Murray, W. W.
Bradlee, A. T.	Muskogee Public Library.
British Engineering Standards Assoc. (South African Branch).	Napolitan, F. J.
Brown, H. A.	Nat. Assoc. of Hosiery and Underwear Mfrs.
Brunton, J. D.	National Lock Washer Co., The.
Building Dept., City of Los Angeles.	Naylor Brothers (London), Ltd.
Bureau of Engineering, City of Chicago.	Ohio Hydrate and Supply Co.
Calkins, W. B.	O'Kane, W. C.
Central Steel Co., The.	Olds Motor Works.
Chase Bag Co.	Olson, Joseph O.
Coplay Cement Manufacturing Co.	Outzen, A. N.
Cresson, Lionel.	Pacific Gas and Electric Co.
Curtis, H. L.	Peabody and Co., H. W.
De La Vergne Machine Co.	Peerless Portland Cement Co.
Devine, P. S.	Peerless Portland Cement Co.
Dewey Portland Cement Co.	Peerless Portland Cement Co.
Diescher, S. E.	Peerless Portland Cement Co.
Dolph Co., J. C.	Pennington Sons, Inc., G. W.
Duff Manufacturing Co.	Petoskey Portland Cement Co.
Eastman Kodak Co.	Philadelphia Quartz Co.
Electrolytic Refining and Smelting Co. of Australia, Ltd.	Pittsburgh Crucible Steel Co.
Ewer, N. T.	Porter, J. E.
Fawcett, L. W.	Primrose, J. S. G.
Fomento de Obras y Construcciones.	Rafferty, J. H.
Fondiller, William.	Rankin, E. S.
France Slag Co.	Rankin, F. J.
Fraser Brick Co.	Richter, G. A.
Fulton Bag and Cotton Mills.	Riegel Sack Co.
Gasoline Recovery Corp.	Roast, H. J.
Geiser, W. B.	Roberts, C. C.
General Fire Extinguisher Co.	Robinson, W. B.
Gladden, J. E.	Rogers, A. J.
Goodner, E. F.	Sandusky Cement Co.
Great Western Portland Cement Co.	Smith, C. F., Jr.
Greenhow, M. E.	Standard Stoker Co., Inc.
Hall, John W.	Steinberg, S. S.
Hawkeye Portland Cement Co.	Structural Slate Co., The.
Hird, J. D.	Sullivan Co., The.
Hollingsworth and Vose Co.	Swanson-McGraw, Inc.
Huntley, R. L.	Textile World.
Imperial Oil Refineries, Ltd.	Thornton, W. M., Jr.
Jacobus, D. S.	Tompson, G. A.
Jamieson Co., J. B.	Trinity Portland Cement Co.
Jenkins Bros.	Uhl, F. L.
John, J. B.	Upton, T. H.
Johnson and Co., Inc., Oliver.	Utah Fire Clay Co.
Kent Bag Co., Inc., Percy.	Valentine and Co.
Keyes, J. J.	Vernon, S. B.
Klein, John.	Vernson, H. W.
Knight, B. H.	Von Hembach, E.
Kolb, E. M.	Warren, Samuel.
Laclede Gas Light Co., The.	Weiss, J. M.
Lanning, C. E.	Werthen Bag Co.
Lehon Co., The.	Wetherill Varnish Co., G. D.
Lewis, H. R., Jr.	Wilsnack, G. C.
	Wing, W. S.
	Wood, W. W.
	Woodman, R. E.
	Woodridge, W. J.
	Yamamoto, Toru.
	Yorkshire Copper Works, Ltd.
	Zusi, C. J.

Deceased Members

We announce with regret the death of three members:

J. A. BECKETT, Consulting Engineer, North, Troy, N. Y.
P. C. McILHINEY, Consulting Chemist, New York City.
W. T. SEARS, Niles-Bement-Pond Co., New York City.

Our stock of Vols. I and III of the PROCEEDINGS has been exhausted for a long time. An Association abroad is very desirous of securing Vols. I and III to complete its set of PROCEEDINGS. Any members who have these two volumes, and are willing to dispose of them, are requested to so advise the Secretary-Treasurer.

Addresses Wanted

Persons who know the present addresses of the members whose names and last known addresses are given below, are asked to advise the Secretary-Treasurer.

ARCHER, MERTON THOMAS. Engineer, National Supply Co., Houston, Tex.
DOWNS, SAMUEL F. Chemist, Monolith Portland Cement Co., Monolith, Calif.
SAEGER, GEOFF A. Chemist, Crescent Portland Cement Co., Wampum, Pa.
TOMLINSON, MALCOLM C. W. Development Engineer, 822 S. Wabash Ave., Chicago, Ill.
WARREN, JOHN M. 1483 McGuffuy Road, Youngstown, O.

Special Publications Placed on Sale

The following reprints from the PROCEEDINGS are available at the following prices:

1923 report of Committee A-5 on Corrosion of Iron and Steel, including report on Inspection of Corrosion Tests and two tentative methods of determining weight of coating. \$0.50
1923 report of Committee D-2 on Petroleum Products and Lubricants, including nine tentative standards for petroleum products. 1.00
Special Reprint Volume on Textile Materials containing reprints of a number of appendices and excerpts from the reports of the committee covering the years 1916 to 1923 and including nine standards and tentative standards:
Single copies. 1.00
Lots of 25 to 99.50
Lots of 100 to 249.40
Lots of 250 and above.30

List of Publications

Proceedings, Volume 23 (1923).—The PROCEEDINGS for 1923 in two parts: Part I, committee reports with discussions and new and revised tentative standards (about 1000 pp.); Part II, technical papers with discussions (about 625 pp.), ready about December 15. Prices to non-members: paper \$12.00, cloth \$13.00, half-leather \$16.00. To members for extra copies, \$7.00, \$8.00, and \$11.00, respectively.

Book of A.S.T.M. Standards.—Issued triennially. The 1921 edition (890 pp.) and the 1922 Supplement (54 pp.) and the 1923 Supplement (126 pp.) containing 192 standards adopted by the Society. The prices to non-members: cloth, \$11.00; half-leather \$12.50. To members for extra copies: \$3.00 and \$9.50, respectively.

Supplements to Book of Standards.—The twelve 1922 standards forming the first supplement to the 1921 Book of A.S.T.M. Standards are issued in a pamphlet of 54 pages. Price to non-members: \$1.00. To members for extra copies: \$0.75.

The twenty 1923 Standards, with one revision of an existing standard, forming the second supplement to the Book of Standards are issued in a pamphlet of 126 pages. Price to non-members: \$2.00. To members for extra copies: \$1.50.

Book of A.S.T.M. Tentative Standards.—The 1923 edition (859 pp.) contains 190 tentative standards issued by the Society. Prices to non-members: paper \$7.00, cloth, \$8.00. To members for extra copies: \$4.50 and \$5.50, respectively.

Separate Standards and Tentative Standards.—Separate copies of all standards and tentative standards are available. The price is 25 cents for a single copy and in lots up to 50. Larger quantities are furnished at lower prices.

Complete Sets of Proceedings from 1902 to 1922, inclusive (with the exception of Vols. I and III). Special prices are made to members for extra copies and for complete sets. Binding in paper, cloth or half-leather.

Index to Proceedings, Vols. XIII to XX.—An index to the Proceedings for the years 1913 to 1920, inclusive (189 pp.), containing both an author and subject index of the committee reports and technical papers including the discussions. Prices to non-members: cloth \$2.50, half-leather \$3.50. To members: cloth, \$1.75, half-leather \$2.75, respectively.

Miscellaneous.—Volume of annual reports of Committee D-1 on Preservative Coatings for Structural Materials for the years 1903-1914 (567 pp.). Price, \$5.00 in cloth.

Progress Report of Joint Committee on Specifications for Concrete and Reinforced Concrete (1921). Price, \$1.50.

Inquiries and orders should be directed to:

AMERICAN SOCIETY FOR TESTING MATERIALS
1315 Spruce Street, Philadelphia

A.S.T.M. Committee Activities

Space in the BULLETIN is reserved for items of interest about committee activities. Officers of committees are invited to prepare information of suitable character for publication. A schedule of committee meetings for three months in advance will be published in each issue.

Textile Committee Holds Big Fall Meeting

Committee D-13 on Textile Materials met at the Society's headquarters for the first time on Friday, October 26. Consideration of the new developments undertaken by the committee occupied a large part of the meeting, as follows:

Electrical Yarns and Sewing Thread

The report on specifications for electrical yarns was presented by Sub-Committee VII on Yarn, Thread and Twine. Prepared originally by an independent committee which recently became a part of Committee D-13, it aroused a great deal of discussion, especially with respect to the skein method of testing electrical yarns, as provided in the report, *versus* the single-thread method, and the recommended standard moisture regain of 7 per cent. The report was finally referred back to the sub-committee with the request that the suggestions offered at the meeting be considered and the specifications put into form for further action at the next meeting.

Specifications for tolerances and test methods for cotton sewing threads were also submitted by Sub-Committee VII and after discussion, were referred back for reconsideration.

Cement Bags

Progress in the development of tests and specifications for Osnaburg cement bags was reported by Sub-Committee X. This is a problem that has been taken up by Committee D-13 at the request of the Portland Cement Association, for which purpose a number of representative producers and users of cement bags have been added to the committee. The main committee received the report and referred various suggestions to the sub-committee for its consideration.

Regain in Cotton Fabrics

The report of Sub-Committee I on Humidity took the form of a paper on "The Rate of Regain in Cotton Fabrics," prepared by Prof. G. B. Haven, chairman of the sub-committee, and read in his absence by the secretary of the committee. This paper presented the results of valuable original work by Professor Haven to determine the amount of moisture taken up by fabrics which have been dried preparatory to testing, and the rapidity with which they take up this moisture. The conclusion reached was that a period of conditioning of one hour is adequate to insure moisture equilibrium in fabrics not heavier than a light sheeting, while a period of two hours is adequate for the heaviest fabrics.

Enlargement of Scope

The enlargement of the scope of Committee D-13 to include activities connected with the knit goods and wool goods fields, as related to their use in engineering and mechanical operation, was carefully considered and a special sub-committee appointed to investigate the subject. This sub-committee will consider the advisability of entering these and other fields and, if it decides favorably, will recommend sub-committees to represent the new groups.

Progress reports from the sub-committees on Fabric Test Methods, Testing Machines, Classification and Identification of Fibers and Fabrics, Imperfections and Tolerances, and Hose, Belt and Numbered Duck were received. The need of more definite methods of testing Osnaburgs, hose and belt duck and builder fabrics is under consideration; also the possibility of a uniform standard regain for cotton fabrics and yarns owing to criticism in the trade regarding the present dual standard. Substantial progress in securing new members of the Society interested in textiles was reported.

The committee will hold its next meeting in Washington on March 7 and 8, 1924.

Committee A-9 on Ferro-Alloys Organized

The newest committee in the Society, Committee A-9 on Ferro-Alloys, was organized at a well-attended meeting on Friday, November 2, at the Society's headquarters. As its first act the committee voted to make permanent the tentative personnel. Dr. F. C. Langenberg, who served by appointment as temporary chairman, was elected permanent chairman, and Mr. Charles McKnight, Jr., was elected secretary. The following is the personnel of the committee:

F. C. Langenberg, Chairman.
Charles McKnight, Jr., Secretary.

NON-PRODUCERS

Atlas Steel Corporation,
O. R. Smith.
Carnegie Steel Co.,
C. F. W. Rys.
Central Steel Co.,
E. A. Portz.
Colonial Steel Co.,
N. B. Hoffman.
Richardson, Nicholas.

United Alloy Steel Corporation,
M. H. Schmidt.
U. S. Bureau of Standards,
G. E. F. Lundell.
U. S. Navy Department,
J. J. Crowe.
U. S. Ordnance Department,
F. C. Langenberg.

PRODUCERS

Bethlehem Steel Co.,
W. R. Shimer.
Electro Metallurgical Co.,
F. M. Becket.
International Nickel Co.,
Charles McKnight, Jr.

Metal and Thermit Corporation,
A. F. Braid.
Sargent, G. W.
U. S. Ferro Alloys Corporation,
N. Petinot.
Vanadium Corporation of America,
B. D. Saklatwalla.

Three sub-committees will be appointed on Methods of Sampling, Methods of Chemical Analysis, and Specifications, under the chairmanships respectively of Messrs. F. M. Becket, G. E. F. Lundell and N. B. Hoffman. It was evident from the discussion that there are considerable data available on these three phases of the committee's work, so that the committee believes substantial progress can be made by the time of the next annual meeting. The question of which ferro-alloys are to be considered by the committee and the order of consideration has been left to the Sub-Committee on Specifications. It is expected that such alloys as the following will be considered: Ferro-manganese, ferro-silicon, ferro-phosphorus, ferro-chrome, ferro-vanadium, ferro-tungsten, ferro-molybdenum and ferro-nickel.

Invitations have been extended to the following to become members of the committee: Ledoux and Co., Pittsburgh Testing Laboratory, Robert W. Hunt and Co., Booth, Garrett and Blair, and E. J. Lavino and Co.

Classification of Material According to Size

An important study on the classification of material according to size will be made by a sub-committee of Committee E-1 on Methods of Testing. The need of such a study was brought out by an analysis of the various A.S.T.M. methods of testing covering mechanical separation, published in the 1923 Report of Committee E-1, which showed that several different specifications are used for sieves and screens for essentially the same purposes. The resulting confusion in road materials testing has been pointed out by the Bureau of Public Roads. The sub-committee, under the chairmanship of F. G. Breyer, will consist of the representatives of the several standing committees interested, specially qualified advisers from the Bureau of Standards, Bureau of Public Roads and Association of State Highway Officials, and manufacturers of testing sieves. An organization meeting will be held at the Society's headquarters on November 15.

Corrosion Tests on Non-Ferrous Metals

Committee B-3 on Corrosion of Non-Ferrous Metals and Alloys, at a meeting held at the Society's headquarters on October 25, formulated a program of cooperative tests for the purpose of developing proper corrosion tests of these materials. Four kinds of tests will be made: Total Immersion, Alternate Immersion, Spray, and Accelerated Electrolytic Tests. Six metals and alloys (nickel, zinc, lead, copper, aluminum and admiralty metal) will be tested by each method, using the following six solutions: (1) Sodium chloride, (2) hydrochloric acid, (3) acetic acid, (4) sodium hydroxide, (5) ammonium hydroxide and (6) potassium dichromate. Test specimens will be 5 by 2.5 by 0.25 cm. in size, with a $\frac{1}{8}$ -in. hole drilled $\frac{1}{4}$ in. from the end of the specimen for suspension. For electrolytic tests the specimens will be 10 cm. long. All solutions will be made up exactly normal in Pyrex glass with freshly boiled distilled water and stored in Pyrex glass flasks and stoppered with rubber stoppers. All tests will be run at a temperature of $25^{\circ}\text{C.} \pm 1^{\circ}\text{C.}$ The material will be obtained in the form of sheets $6\frac{1}{2}$ in. wide by 36 in. long, and approximately 0.10 in. in thickness. All sheets will be rolled from the same or consecutive ingots, and careful record will be kept of the steps in the manufacture. Analyses and tests of the material will be made at the Bureau of Standards.

Each kind of test is in the charge of a sub-committee, which will prepare the procedures to be followed. It is expected that by the spring meeting of the committee the details of the tests will have been worked out and the material secured. It is hoped, therefore, that by the 1924 annual meeting some actual results will be available.

It is especially to be noted that these tests are not being made to determine the relative corrosion resistance of any one metal or of any group of metals, the purpose being to compare and evaluate the various types of corrosion testing.

Corrosion, Heat and Electrical-Resistant Alloys to be Studied

At the invitation of the Secretary-Treasurer, an informal conference was held at the Society's headquarters on October 24 to discuss the manner in which the Society might most usefully and profitably study the subject of Corrosion-Resistant, Heat-Resistant and Electrical-Resistant Alloys. It was generally agreed that the time is not opportune for the preparation of standard specifications for such alloys, because new alloys and new uses are being developed to such a degree that the framing of standards would probably retard progress in the art. However, the Society can perform a very useful function by gathering together the principal available data regarding the properties and uses of these alloys, and the conference has suggested to the Executive Committee the formation of a special committee, which might be attached to the Committee on Papers in an advisory capacity, to be charged with the preparation of such data for presentation at the 1924 annual meeting, possibly in the form of a symposium.

Further tests of these alloys to supplement existing data is a matter for future consideration. The development of the subject on a permanent basis through the organization of one or more standing committees will be determined largely by the outcome of the symposium.

The Secretary-Treasurer will welcome any suggestions relating to the arrangement of this symposium.

Those present at the meeting were: W. H. Bassett, W. M. Corse, L. O. Hart, A. A. Hassan, P. E. McKinney, P. D. Merica, H. M. Williams and the Secretary-Treasurer.

Schedule of Committee Meetings

Date	Committee	Place
November 7	Advisory Committee, E-8 on Nomenclature and Definitions	Philadelphia.
November 9	D-2 on Petroleum Products and Lubricants	Washington.
November 13	D-15 on Thermometers	Rochester
November 15	Sub-Committee, of Committee E-1, on Mechanical Testing of Metallic Materials	Philadelphia.
November 15	Sub-Committee, of Committee E-1, on Classification of Material According to Size	Philadelphia.
November 16	Advisory Committee, E-1 on Methods of Testing	Philadelphia.
November	D-9 on Electrical Insulating Materials	New York City.
November	D-11 on Rubber Products	New York City.
January 22	Executive Committee	Philadelphia.
January	Sub-Committees of Committee A-1 on Steel	Philadelphia.
January	C-6 on Drain Tile	Chicago.
January	D-8 on Waterproofing	

Committee A-1 on Steel and some of its sub-committees met at the Society's headquarters on October 4 and 5. The committee is cooperating with the committee on track of the American Railway Engineering Association in regard to the specifications for spikes and tie plates. The committee is also participating in the work of the A.E.S.C. Sectional Committee on standardization of gears. A special sub-committee consisting of Messrs. H. P. Tiemann, T. D. Lynch, L. H. Fry, and E. F. Kenney, have been appointed to cooperate in this matter. This committee will serve to represent the interests of the Sub-Committee on Forgings, the Sub-Committee on Steel Castings and the Sub-Committee on Wheels.

Revisions are under consideration of the Society's Standard Specifications for Wrought Solid Carbon-Steel Wheels for Electric Railway Service; and for Wrought Solid Carbon-Steel Wheels for Steam Railway Service. The latter are being reviewed and compared with similar specifications of the A.R.A., while the specifications for Wheels for Electric Railway Service have been compared with the specifications of the A.E.R.E.A.

Requirements are under consideration for annealed and quenched-and-tempered castings. It is possible that separate specifications may be prepared covering this material. The committee has suggested to Committee A-4 on Heat Treatment that it give consideration to incorporating requirements regarding pyrometers in its Recommended Practice for Heat Treatment of Steel Castings.

New tolerances have been prepared for under-size and over-size of steel rivets. These tolerances are the same as those formulated by the A.S.M.E. Boiler Code Committee in co-operation with the leading manufacturers.

The accuracy of the various methods of chemical analysis of steel and alloy steels was discussed and an attempt will be made to establish the accuracy of these methods, and include tolerances as a part of the methods if these are found necessary.

Committee B-2 on Non-Ferrous Metals and Alloys held its regular fall meeting at the Society headquarters on Wednesday, October 24. Meetings of several sub-committees were held on the preceding day and on Wednesday morning, the meeting of the main committee being held in the afternoon. At this meeting reports were received from all sub-committees and from these reports the following notes of general interest are taken:

Sub-Committee II on Wrought Metals and Alloys reported that consideration was being given to the revision of Specifications for Admiralty Condenser Tubes presented at the last annual meeting, and that as new work it is considering specifications for Muntz metal condenser tubes and 70-30 brass condenser tubes.

Sub-Committee III on Sand-Cast Metals and Alloys reported progress in the study of a standard form of test bar, stating that fifteen laboratories are at present engaged in the investigation of the bar proposed in its last report. The sub-committee is also

considering the matter of specifications for certain sand-cast alloys not as yet included in the committee's specifications.

Sub-Committee V on Plates, Tubes and Staybolts for Locomotives recommended, as the result of a series of tests on copper firebox plates and copper bars for staybolts, that the percentage of elongation for arsenical copper in the Standard Specifications for Copper Bars for Staybolts (B 12-21) be changed from 35 to 40 per cent. This recommendation was approved by the committee.

Sub-Committee VIII on Aluminum Alloys reported that revisions in the Specifications for Light Aluminum Casting Alloys (B 26-21) were being prepared for submission at the next meeting; also that specifications for sheet aluminum were being prepared based upon recent specifications of the Federal Specifications Board. It was suggested to the sub-committee that it should bring out in its annual report next year information regarding the high-strength aluminum alloys, since there is need by engineers and designers for reliable data on the properties of these alloys, notably the alloys of magnesium and silicon with aluminum. The subject of magnesium alloys was also discussed.

Sub-Committee IX on Nomenclature and Definitions reported it is preparing a questionnaire for distribution among national and international bodies to secure opinions regarding four possible bases of nomenclature of the non-ferrous metals and alloys. The sub-committee also made the suggestion that the List of Alloys, published a year ago in the committee's report, be supplemented by a statement showing the uses for which the various alloys are suitable.

Sub-Committee XII on Metallic Fluxes and Deoxidizers has under consideration such matters as specifications for phosphor tin, phosphor copper, silicon copper, etc. The importance of having a symposium or round table discussion on fluxes was emphasized by several speakers and the suggestion was advanced that such a discussion might be arranged in connection with the next meeting of the Institute of Metals.

Committee C-7 on Lime met at the rooms of the National Lime Association, 918 G Street, Washington, D. C., on Tuesday and Wednesday, October 30 and 31. Twenty members of the committee were present. Two minor revisions were suggested in the Tentative Specifications for Structural Lime. Mr. Jonson, of the Bureau of Standards' Section on Gypsum and Lime, read a paper correlating the results on plasticity tests from a number of laboratories. The Bureau of Standards also reported on some tests on lime panels.

The committee is to meet again on March 17 at Washington.

Committee C-9 on Concrete and Concrete Aggregates held a meeting in Chicago on November 2, the most important items under discussion being as follows:

The importance of analyzing and correlating the mass of existing test data on the theory and design of concrete mixtures was thoroughly discussed. Sub-Committee II on this subject was instructed to consider ways and means of accomplishing this task, and definite plans were laid to undertake the work in the immediate future.

The need for the development of field methods of measuring the density (proportion of solids) of aggregates as measured loosely was brought out, also for the comparison of results obtained by such methods with those of standard laboratory methods.

Membership of the new Sub-Committee on Elastic Properties of Concrete was decided upon and the scope of its duties was outlined.

Definite progress during the year on the following more important subjects now being considered by the committee is expected:

1. Design of Concrete Mixtures.
2. Specifications for Concrete Aggregates.
3. Outline of General Specifications for Concrete.
4. Properties of Admixtures.
5. Formulation of Rules for Making Durable Concrete.
6. Elastic Properties of Concrete.

Committee C-10 on Hollow Building Tile held a meeting at the U. S. Bureau of Standards on October 20. The Tentative Definitions of Terms Relating to Hollow Tile which were revised at the recent annual meeting were considered in detail and with some slight changes were recommended for adoption. Specifications and tests for Clay Hollow Load-Bearing Wall Tile and for Hollow Tile Fireproofing for Partitions and Furring were submitted for consideration.

Mr. D. H. Fuller of the U. S. Bureau of Standards described the investigation being carried out by the Bureau on freezing and thawing on architectural terra cotta. The investigations by the Bureau of Standards on Fire Resistance of Hollow Tile was also reviewed. Mr. D. C. Haeger described the work being done at the Wallace Clement Sabine Laboratory of Acoustics on insulation and acoustics.

The next meeting of the committee will be held in Chicago, on February 15.

Committee C-11 on Gypsum held a meeting in Washington, October 23 and 24. Specifications for color of gypsum are again under consideration. Preliminary arrangements have been made with the U. S. Bureau of Mines at New Brunswick, N. J., for research on the commercial uses of gypsum anhydride, with reference to the manufacture of portland cement. It is expected that the Bureau of Standards will commence research on the observation of gypsum products. The next meeting of the committee will be held in Chicago, in March.

Committee D-1 on Preservative Coating at its meetings held at the Society's headquarters on October 2, received reports from its sub-committees as follows:

Sub-Committee III on Testing of Paint Vehicles is conducting work on the testing of safflower oil. The safflower plant is being experimentally grown in North and South Dakota with very interesting results.

Sub-Committee V on Linseed Oil will subject a number of chilled and unchilled samples of linseed oil to different foots tests to further study the question of foots.

Sub-Committee VIII on Methods of Analysis of Paint Materials is carrying out some cooperative work in conjunction with the analysis of titanium pigments.

Sub-Committee XIII on Shellac expects to prepare a number of samples of pure orange shellac and orange shellac with various percentages of rosin added. These will be sent to the members to be tested under the modified McIlhiney method proposed by Messrs. Walker and Steele and also by the standard iodine method. It further expects to investigate a new method for determining the wax content of shellac.

Sub-Committee XV on Specifications for Pigments Dry and in Oil is recommending that a number of the present Tentative Specifications for pigments be advanced to standard after making slight revisions in the fineness requirements. A standard No. 325 screen will be specified instead of the present No. 200 screen.

Sub-Committee XXIII on Anti-Fouling Paints will make an inspection of the vessels of the Navy, Shipping Board and private companies that have been painted with the test paints and which are now at sea. The inauguration of a new series of tests will be considered at the next meeting.

The next meeting of Committee D-1 will be held in April in conjunction with the meeting of the American Chemical Society.

Committee D-5 on Coal and Coke is now taking up the subject of standardization of anthracite sizes. A meeting of Sub-Committee IV, of Committee D-5, on Standard Sizes was held in the laboratories of the United States Testing Co. on October 19, which was attended by the members of the sub-committee, representatives of dealers in coal, consumers and combustion engineers. The work of the sub-committee involves the following:

1. Names and the sizes as used in the trade.
2. Method of sampling a shipment of anthracite and making the sieve tests.
3. Sieves to be used in test (given size shall pass through a specified opening and be retained on a specified opening.)
4. Tolerances of allowable undersize and oversize.
5. Specifications for the sieves to be used.

As a result of the meeting names and sizes as used in the trade were tentatively agreed upon.

Committee D-9 on Electrical Insulating Materials is planning an investigation on the effect of time on the dielectric strength of sheet insulating materials. It is expected that methods of testing paper will be submitted as tentative. An investigation is also under way on electrical tests on thin rubber sheets and tape, intended especially for cable splicing. The subject of tests to determine the aging of electrical insulating materials is being studied with a view to developing standard test methods.

